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The conditional maximum of Poisson random variables

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Abstract

© 2017 Taylor & Francis Group, LLC The conditional maxima of independent Poisson random variables are studied. A triangular array of row-wise independent Poisson random variables is considered. If condition is given for the row-wise sums, then the limiting distribution of the row-wise maxima is concentrated onto two points. The result is in accordance with the classical result of Anderson. The case of general power series distributions is also covered. The model studied in Theorems 2.1 and 2.2 is an analogue of the generalized allocation scheme. It can be considered as a non homogeneous generalized scheme of allocations of at most n balls into N boxes. Then the maximal value of the contents of the boxes is studied.

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Keywords

Generalized scheme of allocations, limit theorem, maximal value, Poisson distribution, power series distribution